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| 10/764,951 | 01/26/2004 | David G. Miller | US030082 | 9296 |

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P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

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| EXAMINER |
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KASZTEJNA, MATTHEW JOHN

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| ART UNIT | PAPER NUMBER |
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3739

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| MAIL DATE | DELIVERY MODE |
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09/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/764,951

Applicant(s)

MILLER, DAVID G.

Examiner

Matthew J. Kasztejna

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Notice of Amendment

In response to the arguments filed on May 22, 2007, the current rejections of the claims are *withdrawn*. The following new grounds of rejection are set forth:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 9, 12-13, 15-17 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,669,389 to Rotteveel et al.

In regard to claims 1, 9, 15 and 21, Rotteveel et al. disclose an endoscopic imaging apparatus comprising: an endoscope including a distal end; at least one ultrasound transducer 11 contained within said distal end; and an outer protective shell 13 directly covering said distal end and fabricated from an electrically insulating material having a thermal conductance greater than 1 W/M-°K overlaying at least a portion of said distal end (see Figs 7-8 and Col. 5, Line 30 – Col. 6, Line 26). In the broadest interpretation of the claim, the outer protective shell consists of elements 81, 82 and 87 and 85 of Rotteveel et al. and thus is fabricated with elements having an overall thermal conductivity of greater than 1 W/M-°K.

In regard to claim 2, Rotteveel et al. disclose an endoscopic imaging apparatus further comprising: controls for controlling the movement of the distal end; a signal

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processor for processing received signals from said at least one ultrasound transducer; and means for energizing the at least one ultrasonic transducer (see Figs. 1-2).

In regard to claim 3, Keast et al. disclose an endoscopic imaging apparatus, wherein said covering is in thermal contact with the at least one ultrasound transducer (see Figs. 7-8).

In regard to claims 4-5, 12-13 and 16-17, Keast et al. disclose an endoscopic imaging apparatus, wherein said material is non-toxic (see Col. 1, Lines 10-67).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-8, 10-11, 14 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,669,389 to Rotteveel et al. in view of U.S. Patent No. 5,738,100 to Yagami et al.

In regard to claims 6-8, 10-11, 14 and 18-20, Rotteveel et al. disclose an endoscopic imaging apparatus comprising: an endoscope including a distal end; at least one ultrasound transducer 11 contained within said distal end; and an outer protective shell 13 directly covering said distal end and fabricated from an electrically insulating material having a thermal conductance greater than 1 W/M-°K overlaying at least a portion of said distal end (see Figs 7-8 and Col. 5, Line 30 – Col. 6, Line 26). Rotteveel et al. is silent with respect to the insulating material consisting of an alumina-based

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ceramic. Yagami et al. teach of an analogous apparatus having an ultrasound transducer 11 with a covering fabricated from an electrically insulating material 27 made from an a material such as alumina (see Fig. 1 and Col. 5, Lines 15-25). The ceramic material would inherently be electrically insulating and have a thermal conductance greater than 1 W/M-OK, or approximately 30 W/M-OK, as Yagami et al. disclose the housing to be preferably made of a ceramic material such as alumina (as also noted by applicant at page 4 of the specification). It would have been obvious to one skilled in the art at the time the invention was made to fabricate the outer shell in the apparatus of Rotteveel et al. from an alumina-based ceramic in order to provide greater thermal conductance to the lens and thus more readily dissipate heat created by the ultrasound transducer as taught by Yagami et al.

Response to Arguments

Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Kasztejna whose telephone number is (571) 272-6086. The examiner can normally be reached on Mon-Fri, 8:30-6:00.

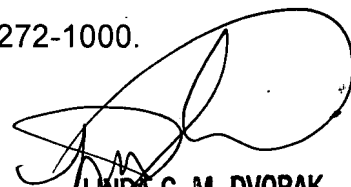
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C.M. Dvorak can be reached on (571) 272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJK 

8/30/07


/LINDA C. M. DVORAK
SUPERVISORY PATENT EXAMINER
GROUP 3700